





SHOW and Tell: Video Lab Reports

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| Title | SHOW and Tell: Video Lab Reports |
| Subject/Unit/Lesson | Science, Any |
| Level/Grade | Elementary to High School |
| Time Frame | Five to six class periods. [1 class period to discuss sample videos and select an experiment. 1 class period to complete the experiment and write a traditional lab report. 1 class period to discuss the “show” elements of their video and storyboard it. 1 class period to tape their experiment and create other needed documents. 1 to 2 class periods to edit their Video Lab Report.] |
| Summary/Abstract | Students will use video as a means to better communicate their learning from science experiments (think Bill Nye the Science Guy). Instead of merely using the written word to write up a science lab, students will use video, still images, and special effects as necessary to visually represent their understanding of a scientific concept. They will need to follow the elements found in the traditional lab report: question; hypothesis; materials and procedure; results and analysis; and conclusion. |
| Tasks/Performance | <ol style="list-style-type: none">1. Watch sample videos that demonstrate a science or math concept (Apple’s <i>Bernoulli Principle</i> or <i>Triangles</i>, Bill Nye’s shows, or something from the Discovery Channel). Compare these with a video that basically “tells” you about a concept, but that doesn’t “show” much about it.2. As a class, discuss the parts of the videos where the video clearly “shows” something. Ask the students what camera or editing techniques were used (e.g. still images, animations, pictures of the materials, demonstrations of the process, footage of the “results,” slow motion, etc.)3. In groups of four, have students select a concept and experiment (consider using experiments from your textbook or other books like Janice Vancleave’s <i>Science for Every Kid</i> books.4. Have the students complete the experiment and write it up using a traditional lab report format.5. Have the students discuss how best to “show” their understanding, thinking back to the first discussion.6. Have the students storyboard their science experiment video.7. Have the students tape their video and create any other documents (still images, animations, etc.) needed for their video. (If you only |

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| | <p>have 1 camera, you may want to have 1 group at a time work during lunch, before or after school, or while the class is doing something else in social studies).</p> <p>8. Have students import their video into the computer and edit the lab report according to their storyboards. (Students who finish early may want to add appropriate background music or sound effects.)</p> <p>9. Students present their finished Video Lab Reports to the class.</p> |
| Standards/Outcomes | <p>Science:</p> <p>Standard 1.1 – Constructing New Scientific Knowledge – All students will ask questions that help them learn about the world; design and conduct investigations using appropriate methodology and technology; learn from books and other sources of information; communicate their findings using appropriate technology; and reconstruct previously learned knowledge.</p> <p>English Language Arts:</p> <p>Standard 1 – All students will read and comprehend general and technical material.</p> <p>Standard 2 - All students will demonstrate the ability to write clear and grammatically correct sentences, paragraphs, and compositions.</p> <p>Standard 6. Voice</p> <p>All students will learn to communicate information accurately and effectively and demonstrate their expressive abilities by creating oral, written, and visual texts that enlighten and engage an audience.</p> <p>Standard 8. Genre and Craft of Language</p> <p>All students will explore and use the characteristics of different types of texts, aesthetic elements, and mechanics—including text structure, figurative and descriptive language, spelling, punctuation, and grammar—to construct and convey meaning.</p> <p>Standard 11. Inquiry and Research</p> <p>All students will define and investigate important issues and problems using a variety of resources, including technology, to explore and create texts.</p> <p>Technology:</p> <p>NETS 4 – Technology communication tools: Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences.</p> <p>NETS 5 – Technology research tools: Students use technology to locate, evaluate, and collect information from a variety of sources.</p> |
| Tools/Resources | Textbooks, encyclopedia (CD-ROM, WWW, or book), web access, iMovie, DV camcorder, tape |
| Assessment | See rubric |

Modifications:

-  Students could get hypothesis from other students.
-  Students could connect their experiment to other related concepts or examples in the real world.



Video Lab Reports

Scoring Rubric

| | Criteria | Developing (1-2 pts) | Proficient (3-4 pts) | Exemplary (5-6 pts) | Score |
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| Plan | Script / Storyboard | <ul style="list-style-type: none"> Sketchy script or storyboard Shows evidence of planning for a few parts of production | <ul style="list-style-type: none"> Complete script or storyboard, though not detailed Shows evidence of planning through most parts of production | <ul style="list-style-type: none"> Clearly describes each shot visually Includes movements, narration or dialogue, and fx Shows evidence of planning through all parts of the production | |
| | Video | <ul style="list-style-type: none"> Sometimes in focus Sometimes steady No camera movement OR excessive movement (panning, zooming, trucking, etc.) | <ul style="list-style-type: none"> Usually in focus Usually steady Pans and zooms are limited and usually purposeful Composition usually follows the rule of thirds | <ul style="list-style-type: none"> Always in focus (unless purposefully done) Always steady Variety of shot selections and camera movements. Movements are planned, purposeful and provide impact Varied composition (based on rule of thirds) | |
| Shoot | Audio | <ul style="list-style-type: none"> Sound sometimes unclear: due to low voices and/or overly loud ambient noise | <ul style="list-style-type: none"> Sound usually clear, no unintended ambient noise | <ul style="list-style-type: none"> Sound always clear (unless purposefully done) and ambient noise always appropriate | |
| | Lighting | <ul style="list-style-type: none"> Only ambient (available) light is used Many scenes are overly bright or dark | <ul style="list-style-type: none"> Additional lighting is used as necessary Most scenes have sufficient lighting to tell what is happening | <ul style="list-style-type: none"> Additional lighting is used to eliminate shadows and glares All scenes have sufficient lighting for viewer to easily see action Vivid colors Innovative use of lighting | |
| Edit | Cutting | <ul style="list-style-type: none"> Clips begin and/or end with slack time or in mid action | <ul style="list-style-type: none"> Most clips edited to remove slack time and to begin and end with thought to action | <ul style="list-style-type: none"> Clips show no slack time and begin and end with thought to action | |
| | Transitions | <ul style="list-style-type: none"> No transitions between clips are used or too many different transitions used without thought to purpose | <ul style="list-style-type: none"> Basic transitions used (cut and fade) appropriately and other types of transitions usually added as appropriate for the scene | <ul style="list-style-type: none"> All transitions between clips appropriate, suit the mood and content, and smooth the flow from one scene to the next | |

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| | Pacing / Continuity | Many video clips are too long or too short | Most video clips move at a steady pace, fast enough to keep the audience interested and slow enough to tell the complete story | Variety of pacing and changes fit the “mood” of the content Pacing keeps viewers interested | |
| Enhance | Titles | Titles and subtitles unclear due to font, size, or color contrast | Titles and subtitles usually clear Used appropriately | Titles and subtitles always clear Used appropriately and enhance the story/content | |
| | Background Music | Introductory music not in a typical “broadcast” style | Introductory music in a “broadcast” style but not balanced well (does not match the levels of main audio) | Introductory music in a “broadcast” style and balanced well (matches the levels of the main audio) | |
| Content | | Contains most elements of a typical lab report (question; hypothesis; materials; procedure; results and analysis; and conclusions) Several elements not logically sequenced More “telling” than “showing” of the content | Contains all but one element of a typical lab report Most elements are logically sequenced Overly wordy or cryptically short Uses a few alternative forms of representation as needed (graphs, charts, concept maps, drawings, still photos, etc.) Mostly “shows” the content, but a few instances of only “telling” | Contains all the elements of a typical lab report (question; hypothesis; materials; procedure; results and analysis; and conclusions) Elements are logically sequenced Clear and concise Provides fresh, interesting, or creative insights Uses several alternative forms of representation as needed Information is accurately portrayed Clearly “shows” the content as opposed to “just “telling” | <div>—</div> <div><u>x 4</u></div> <div>= —</div> |
| Creativity | | Little evidence of imagination, creativity, or thoughtfulness No style or mood is apparent. | Some evidence of imagination, creativity, or thoughtfulness Some evidence of thought to style and mood, though may not suit the content | Thorough evidence of imagination, creativity, or thoughtfulness Style or mood which suits the content evident Creative and original | |
| Total | <div>— /</div> | | | | |